

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) An information processing system including:
a first information processing apparatus on a main site having a first communication port for transmitting and receiving data;
a second information processing apparatus on a remote site having a second communication port for transmitting and receiving data; and
a communicating portion for executing bi-directional communication between the first communication port and the second communication port, the information processing system in which data is remote copied from the main site to the remote site, comprising:
a utilizing portion for utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which a first application program run on the first information processing apparatus sets the first communication port and the second communication port respectively as the sender and the destination of data; and
another utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which a second application program runs ~~run~~ on the second information processing apparatus sets the second communication port and the first communication port respectively as the sender and the destination of data.
2. (currently amended) A storage system including:
a first storage device controller on a main site connected to a first storage device;
a second storage device controller on a remote site connected to a second storage device;
a first communication port that the first storage device controller has for transmission and reception of data;

a second communication port that the second storage device controller has for transmission and reception of data;

a communicating portion for carrying out bi-directional communication between the first communication port and the second communication port, and being configured to remote copy data from the main site to the remote site ~~write the data to be written to the first storage device also to the second storage device;~~

a utilizing portion for utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which a first application program run on the first storage device controller ~~information processing apparatus~~ sets the first communication port and the second communication port respectively as the sender and the destination of data; and

another utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which a second application program runs ~~run~~ on the second storage device controller ~~information processing apparatus~~ sets the second communication port and the first communication port respectively as the sender and the destination of data.

3. (currently amended) A storage system according to claim 2,

wherein the utilizing portion for utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which a first application program run on the first storage device controller sets the first communication port and the second communication port respectively as the sender and the destination of data includes a storing portion for storing in the first storage device controller communication direction defining information in which the first application program run on the first storage device controller sets the first communication port and the second communication port respectively as the sender and the destination of data, and for utilizing the communicating portion for communication that transmits data from the main site to the remote site in the direction defined in the information; and

wherein the utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the main site to the remote site in a direction for which a second application program run on the second storage device controller sets the second communication port and the first communication port

respectively as the sender and the destination of data includes a utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the second application program run the second storage device controller exchanges the communication ports allocated respectively as the sender and the destination of the communication direction defining information.

4. (currently amended) A storage system according to claim 2 further comprising:

a relating portion for relating a first storage area set logically in a storage area provided by the first storage device and a second storage area set logically in a storage area provided by the second storage device respectively to the sender storage volume duplication source and the destination storage volume duplication destination of data, and for sending writing the data to be written to the first storage area to the remote site, and writing also to the second storage area; and

a relating portion for relating the second storage area and the first storage area respectively to the sender storage volume duplication source and the destination storage volume when the main site has been recovered duplication destination, and for sending writing the data to be written to the second storage area, and writing also to the first storage area.

5. (currently amended) A first information processing apparatus in an information processing system in which data is remote copied from a main site to a remote site including:

the first information processing apparatus on the main site having a first communication port for transmitting and receiving data;

a second information processing apparatus on the remote site having a second communication port for transmitting and receiving data; and

a communicating portion for executing bi-directional communication between the first communication port and the second communication port,

the first information processing apparatus comprising a utilizing portion for utilizing the communicating portion, for communication that transmits data from the main

site to the remote site in a direction for which an application program run on the first information processing apparatus sets the first communication port and the second communication port respectively as the sender and the destination of data.

6. (currently amended) A second information processing apparatus in an information processing system in which data is remote copied from a main site to a remote site including:

a first information processing apparatus on the main site having a first communication port for transmitting and receiving data;

the second information processing apparatus on the remote site having a second communication port for transmitting and receiving data; and

a communicating portion for executing bi-directional communication between the first communication port and the second communication port, the second information processing apparatus comprising a utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which an application program run on the second information processing apparatus sets the second communication port and the first communication port respectively as the sender and the destination of data.

7. (currently amended) A first storage device controller in a storage system in which data is remote copied from a main site to a remote site including:

the first storage device controller on the main site connected to a first storage device;

a second storage device controller on the remote site connected to a second storage device;

a first communication port that the first storage device controller has for transmission and reception of data;

a second communication port that the second storage device controller has for transmission and reception of data; and

a communicating portion for carrying out bi-directional communication between the first communication port and the second communication port, and being configured to remote copy data from the main site to the remote site ~~write the data to be~~

~~written to the first storage device also to the second storage device~~, the first storage device controller comprising a utilizing portion for utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which an application program run on the first storage device controller sets the first communication port and the second communication port respectively as the sender and the destination of data.

8. (currently amended) A storage device controller according to claim 7, wherein the utilizing portion for utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which an application program run on the first storage device controller sets the first communication port and the second communication port respectively as the sender and the destination of data includes:

a storing portion for storing in the first storage device controller communication direction defining information in which the application program run on the first storage device controller relates the first communication port and the second communication port respectively to the sender and the destination of data, and for utilizing the communicating portion for communication that transmits data from the main site to the remote site in the direction defined in the information.

9. (currently amended) A storage device controller according to claim 7 further comprising:

a relating portion for relating a first storage area set logically in a storage area provided by the first storage device and a second storage area set logically in a storage area provided by the second storage device respectively to the sender storage volume duplication source and the destination storage volume duplication destination of data, and for sending ~~writing~~ the data to be written to the first storage area and writing ~~also~~ to second storage area.

10. (currently amended) A second storage device controller in a storage system in which data is remote copied from a main site to a remote site including:

a first storage device controller on the main site connected to a first storage device;

the second storage device controller on the remote site connected to a second storage device;

a first communication port that the first storage device controller has for transmission and reception of data;

a second communication port that the second storage device controller has for transmission and reception of data; and

a communicating portion for carrying out bi-directional communication between the first communication port and the second communication port, and being configured to remote copy data from the main site to the remote site, ~~write the data to be written to the first storage device also to the second storage device~~, the second storage device controller comprising a utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which an application program run on the second storage device controller sets the first communication port and the second communication port respectively as the sender and the destination of data.

11. (currently amended) A storage device controller according to claim 10, wherein the utilizing portion for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which an application program run on the second storage device controller sets the second communication port and the first communication port respectively as the sender and the destination of data includes:

a storing portion for storing in the second storage device controller communication direction defining information in which the application program run on the second storage device controller relates the second communication port and the first communication port respectively to the sender and the destination of data, and for utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in the direction defined in the information.

12. (currently amended) A storage device controller according to claim 10 further comprising:

a relating portion for relating a first storage area set logically in a storage area provided by the first storage device and a second storage area set logically in a storage area provided by the second storage device respectively to the sender storage volume duplication source and the destination storage volume duplication destination of data when the main site has been recovered, and for sending writing the data to be written to the second storage area and writing also to the first storage area.

13. (currently amended) A computer-readable medium containing a computer program software for causing an information processing system in which data is remote copied in the direction from a main site to a remote site including:

a first information processing apparatus on the main site having a first communication port for transmitting and receiving data;

a second information processing apparatus on the remote site having a second communication port for transmitting and receiving data; and

a communicating portion for executing bi-directional communication between the first communication port and the second communication port, to execute the steps of:

utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which the first communication port and the second communication port are respectively set as the sender and the destination of data; and

utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the second communication port and the first communication port are respectively set as the sender and the destination of data.

14. (currently amended) A computer-readable medium containing a computer program software for causing a storage system including:

a first storage device controller on a main site connected to a first storage device;

a second storage device controller on a remote site connected to a second storage device;

a first communication port that the first storage device controller has for transmission and reception of data;

a second communication port that the second storage device controller has for transmission and reception of data; and

a communicating portion for carrying out bi-directional communication between the first communication port and the second communication port, and having:

a function for remote copying data from the main site to the remote site, ~~writing the data to be written to the first storage device also to the second storage device~~, to execute the steps of:

utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which the first communication port and the second communication port are respectively set as the sender and the destination of data; and

utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the second communication port and the first communication port are respectively set as the sender and the destination of data.

15. (currently amended) A computer-readable medium containing the computer program software according to claim 14, wherein the step of utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which the first communication port and the second communication port are respectively set as the sender and the destination of data includes a step of storing in the first storage device controller communication direction defining information in which the first communication port and the second communication port are respectively related to the sender and the destination of data, and utilizing the communicating portion for communication that transmits data from the main site to the remote site in the direction defined in the information and wherein

the step of utilizing the communicating portions when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the second communication port and the first communication port are respectively set as the sender and the destination of data includes a step of utilizing the

communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the communication ports allocated respectively as the sender and the destination of the communication direction defining information are exchanged with each other.

16. (currently amended) A computer-readable medium containing a computer program software according to claim 14 comprising the steps of:

utilizing the communicating portion, for communication that transmits data from the main site to the remote site in a direction for which the first communication port and the second communication port are respectively set as the sender and the destination of data;

relating a first storage area set logically in a storage area provided by the first storage device and a second storage area set logically in a storage area provided by the second storage device respectively to the sender storage volume ~~duplication source~~ and the destination storage volume ~~duplication destination~~ of data, and sending writing the data to be written to the first storage area, and writing ~~also~~ to the second storage area;

utilizing the communicating portion when the main site has been recovered, for communication that transmits data from the remote site to the main site in a direction for which the second communication port and the first communication port are respectively set as the sender and the destination of data; and

relating the second storage area and the first storage area respectively to the sender storage volume ~~duplication source~~ and the destination storage volume ~~duplication destination~~ of data when the main site has been recovered, and sending writing the data to be written to the second storage area, and writing ~~also~~ to the first storage area.